DOCUMENT RESUME

ED 297 431 EA 020 144

TITLE Educational Facilities in Japan. NIER Occasional Paper 01/87.
INSTITUTION National Inst. for Educational Research, Tokyo (Japan).
PUB DATE Jul 87
NOTE 25p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Educational Facilities; *Educational Facilities Planning; Educational Policy; Educational Trends; Elementary Secondary Education; *Facility Guidelines; Facility Utilization Research; Financial Support; *Foreign Countries; *Public Education; School Demography
IDENTIFIERS *Japan

ABSTRACT

Compulsory education in Japan totals 9 years, from age 6 to 15, and 97 percent of those elementary and lower secondary schools are public, established and maintained by the municipalities. This report describes the present situation and the future trends of educational facilities in public compulsory education schools, together with an explanation of the subsidies system and regulated facility provision. The first section describes the subsidy system, including government subsidies for school buildings and for school lands appropriation. The second section describes standards for educational facilities including school buildings, gymnasiums, and school lands. The third section describes the current condition of school facilities, in relation to trends in the school population, changes in the stock of buildings and gymnasiums for public elementary and lower secondary schools since 1955, and the current conditions of school facilities. The final section discusses the budget for subsidies and the future trend of policies for school facilities. (TE)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

T. Kanaya

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

EA 020 144

NIER OCCASIONAL PAPER 01/87

EDUCATIONAL FACILITIES IN JAPAN

Section for Educational Co-operation in Asia
NATIONAL INSTITUTE FOR EDUCATIONAL RESEARCH OF JAPAN
5-22 Shimomeguro 6-Chome, Meguro-ku, Tokyo, Japan
July 1987

© NIER 1987

NOTE

This paper was prepared originally in Japanese by Mr. Kiyoshi Sakurai, Deputy Director, Facility Aid Division, Educational Assistance and Administration Bureau, Ministry of Education, Science and Culture, for translation into English for dissemination under the NIER's Information Services Programme among the Unesco Member States in Asia and the Pacific.

Preface

Compulsory education in Japan totals nine years, given from the age of six to the age of fifteen. It is provided in elementary schools (6 years), lower secondary schools (3 years), and similar departments of schools for the blind, deaf, or otherwise handicapped. 97% of those elementary and lower secondary schools are public bodies, established and maintained by the municipalities. In 1984, the public elementary schools numbered 24,822 and had 11,358,000 pupils; there were 10,402 public lower secondary schools with 5,623,000 students.

Educational expenditures in elementary and lower secondary schools are borne, in principle, by the establishing municipalities. Compulsory education, as stated in the constitution, is the duty and right of Japanese society. The national government is responsible for enforcing compulsory education and maintaining certain education levels, nation-wide. Thus, the national government establishes laws and regulations that set standards for the content of compulsory education, and provides various curricular personnel and materials. It also bears a part of educational expenditures, such as salaries of teachers and other school employees and expenses for school facilities. The aims are to maintain and improve the level of compulsory education, and provide the people with equal educational opportunities.

This report describes the present situation and the future trend of educational facilities in public compulsory education schools, together with an explanation of the subsidies system and regulated facility provision.

I. The Subsidy System

The municipalities are responsible for establishing and managing public elementary and lower secondary schools, and bearing those schools' educational expenditures.

The national government bears part of the expense of up-keeping school facilities as well as providing salaries for teachers and other school employees. National subsidies for construction of school buildings in elementary and lower secondary schools started in 1946. In 1953, subsidies were legalized. In 1958, the "Law concerning the National Treasury's Share of the Compulsory School Construction" (abbreviated hereafter as "the Law") provided the basis of the present subsidies system. The Law has since been improved and supplemented according to changes within society.

In terms of the present legal system, national treasury funds are, under the 'Law', appropriated for school buildings, gymnasiums and dormitories. School lunch facilities and swimming pools are provided under other special laws. Under the present budgetary system, the government extends subsidies for the appropriation of lands for education.

1. Government Subsidies for School Buildings

(1) Targets for Subsidies

The Law states that the national government should bear part of expenditures for the construction of buildings in public compulsory education schools so that the establishment and maintenance of those facilities be expedited. Thus, the Law aims to ensure high standards of education in compulsory education schools.

The Law prescribes for subsidies for gymnasiums, dormitories and other school buildings which are intended for study, or administration. Receivers of subsidies are as follows:

(a) New construction and extension of school buildings in order to make up for any classroom deficiencies. (50% subsidy rate)

(b) New construction or extension of school gymnasiums. (50% subsidy rate)

(c) New construction or extension of school buildings and gymnasiums necessitated by inter-school consolidation, to create more space. (50% subsidy rate)

(d) Reconstruction of school buildings, gymnasiums and dormitories which may be viewed as being structurally unstable or dangerous. (33% subsidy rate)

The subsidy rate is sometimes raised to two-thirds under prescription of other special laws, in the case of schools located on remote islands, in sparsely populated areas, or in municipalities with a rapidly growing school attendance.

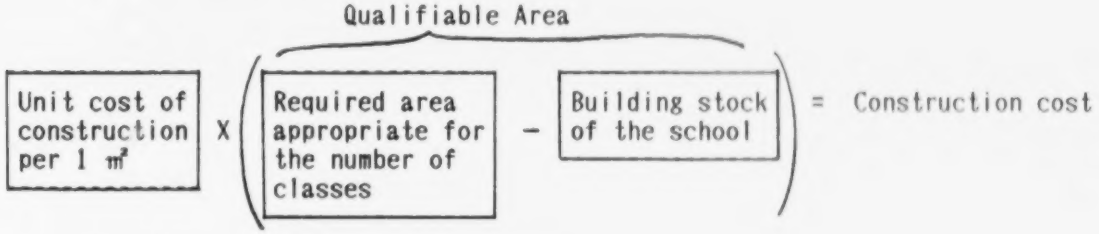
(2) Calculating Subsidies

Subsidies are calculated by multiplying the construction cost by the subsidy rate. Construction cost is obtained by multiplying the construction area by the unit cost of construction per square meter. When construction covers a larger area than that stipulated under government provision (hereafter called the "qualifiable area"), calculations should be made to within this qualifiable area.

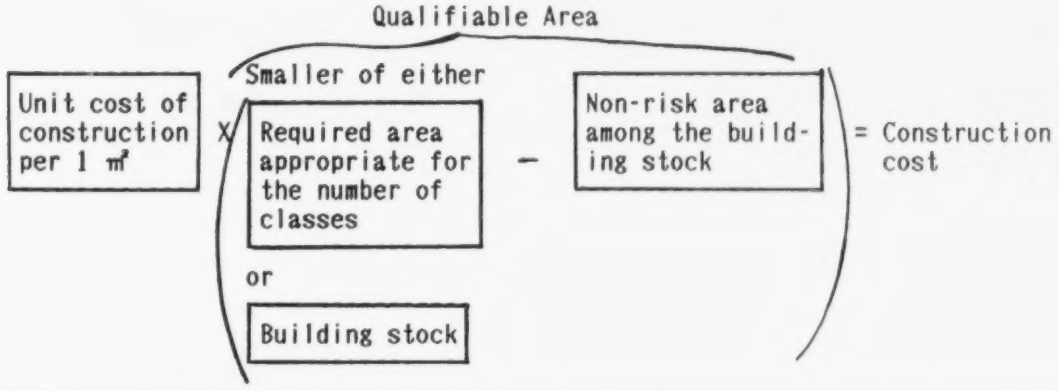
Details of qualifiable areas are given below. In the case of new construction or extension, subsidies are calculated by subtracting the area of building stock from the area required, giving the area qualifying for maintenance. In the reconstruction required area is calculated as the non-risk area minus the smaller of either required area or stock.

The required area means the area affixed by the national government as the minimum for educational needs and subsidized from the national treasury. This is determined by the number of classes in school. The stock is the total area of floor space in every building of the school as of 1 May in the school year when construction commences.

a) New construction and extensions



b) Reconstruction



Risk area means the area of buildings which are deemed structurally unstable or dangerous. The degree of risk is indicated by the structural endurance, preservation and durability measured on external conditions. From a possible maximum 10,000 rating, Wooden buildings rated below 5,500 and reinforced concrete buildings under 5,000 are deemed high-risk.

2. Government Subsidies for School Lands Appropriation

A national subsidies bill for school lands appropriation was introduced in 1971. Funds are allocated only for those municipalities with rapidly growing school attendance. Some municipalities, suffering from serious classroom deficiencies, were forced to build new elementary and lower secondary schools. Under the circumstances, the subsidy measure was taken as a special policy with a view to maintaining the high quality of compulsory education.

Municipalities are subsidized where school attendance increases by more than a certain number or rate over the previous three years. The subsidy rate is 2/7.

Subsidies are calculated by multiplying the land acquisition cost by the subsidy rate, in the same way as performed for construction. Subsidies are limited to within the qualifiable area even if the appropriated land should exceed that area. The qualifiable area can be calculated by subtracting the existing land area from the allowable area. The latter means the total area of the building site and the playground, and is fixed according to the number of classes.

II. Standards of Facilities

Maintaining a desired level of compulsory education nation-wide, requires certain standards be met in terms of basic personnel and materials. School facilities constitute one basic material need, the other being school equipment. Thus, the School Education Law established in 1947 provides the nation is responsible for affixing standards for school facilities and equipment.

The Enforcement Provisions of the School Education Law prescribe the following standards, also providing details of that implementation be settled elsewhere.

(1) Schools must be furnished with school land, buildings, a gymnasium, library, and medical care room, etc. which are necessary for attaining its purposes.

(2) Schools must be situated in an environment conducive to education.

(3) The standard number of classes in an elementary or a lower secondary school should be between 12 to 18, unless the land availability or other circumstances do not afford.

However, no detailed statement establishing standards for elementary and lower secondary schools has been determined until today. As for school facilities, regulations on national subsidies fixed by the Law have actually played the role of substitute.

1. School Buildings

The school building is the center of study and management. It consists of (a) classroom, (b) rooms for the school master, teachers and staff, and other managerial use, and (c) Entrance hall, staircases and corridors.

(1) Types of Classrooms

Classrooms are ordered into, ordinary classrooms, special classrooms, and multi-purposes classrooms, or space.

Ordinary classrooms are where ordinary lessons are held and constitute the homeroom for pupils/students. Classrooms of this type equal the number of classes. Special classrooms are where special materials are kept constantly, such as the library, and classrooms for science, music, drawing and manual arts, arts, manual training, home economics, and vocational education. Also included are rooms for specified purposes, such as those listed for special activities or educational consultations. The following are the types of special classrooms which are to be subsidized by the national treasury under the Law.

Elementary schools: Rooms for science, music, drawing and manual arts, home economics, audio-visual education; libraries; rooms for special activities.

Lower secondary schools: Rooms for science, music, art, manual training, home economics, vocational education, audio-visual education; library; rooms for special activities or educational consultation.

When the total number or the total area of special classrooms falls beneath the following standard limits, classroom size is considered inadequate, allowing new subsidized construction or extension be carried out to alleviate the problem.

[Elementary schools]

Number of classes (except special classes)	1-5	6-11	12-17	18-23	24-35	36-37	48 & over
Number of classrooms	2	5	6	7	8	9	10
Total area (㎡)	191	406	647	841	931	1,081	1,200

[Lower secondary schools]

Number of classes (except special classes)	1-2	3-8	9-14	15-20	21-26	27-32	33-38	39-44	45-50	51-56	57 & over
Number of classrooms	2	8	11	13	13	14	15	16	17	18	19
Total area (㎡)	207	693	1,124	1,501	1,627	1,792	1,918	2,110	2,275	2,416	2,535

Multi-purpose classrooms or multi-purpose working space concepts, such as a learning center and multi-purposes hall, were introduced in 1984. These are intended to be utilized for various types of learning such as lessons for multiple classes, as well as serving as space for diversified activities for students. It is also possible to create new educational space in elementary and lower secondary schools by designing the new space be used in conjunction with ordinary classrooms or corridors.

(2) Qualifiable Area for School Building Subsidies

The standard area qualifying for subsidy under the Law for buildings in elementary and lower secondary schools can be calculated by the method shown in Table 1. The standard area corresponds to the required area which is fixed according to the number of classes. If a multi-purpose classroom or space is selected, the subsidy is increased by 7.6% for elementary schools, and by 6.0% for lower secondary schools.

An ordinary classroom is a standard 74㎡, both in elementary and lower secondary schools.

Lower secondary schools have more special classrooms and of various types than elementary schools. As a result, the total area of the former exceeds the latter by more than 20%.

A multi-purpose classroom is a standard 312㎡ for 18 classes, almost the same for both elementary and lower secondary schools. Since corridors and staircases account for about 30% of all space in these schools, quite spacious multi-purpose classrooms can be arranged, with proper planning.

Table 1: Standard area for school buildings
- Required area in accordance with the number of classes -

[Elementary school] (Structure: R, Unit: ㎡)

Number of classes (excluding special classes)	Calculation formula
1 - 5	544+226 (N-1)
6 - 11	1,674+218 (N-6)
12 - 17	2,982+189 (N-12)
18 & over	4,111+171 (N-18)

Notes: (1) N = Number of classes except special classes.

(2) When special classes are included, add 168㎡ for one special class to the required area listed above.

(3) If multi-purposes classrooms are to be selected, multiply by 1,076 the required area in accordance with the number of classes, including special classes.

[Lower secondary school] (Structure: R, Unit: ㎡)

Number of classes (excluding special classes)	Calculation formula
1 - 2	615+484 (N-1)
3 - 5	1,583+193 (N-3)
6 - 11	2,163+266 (N-6)
12 - 17	3,758+242 (N-12)
18 & over	5,207+187 (N-18)

Notes: (1) N = Number of classes except special classes.

(2) When special classes are included, add 168㎡ for one special class to the required area listed above.

(3) If multi-purposes classrooms are to be selected, multiply by 1,060 the required area in accordance with the number of classes, including special classes.

Details for the standard area, being merely a basis for calculating the total area, never restrict the actual design of schools. In an elementary school with 18 classes, the government subsidy provides a maximum total area of 4,423㎡. So it is up to the municipalities to construct the school building as they wish within this limit.

The standard area is determined according to the number of classes. Thus, if a class consists of 40 pupils, the standard area per capita is about 6.1㎡ in an elementary school of 18 classes, and about 7.7㎡ in a lower secondary school of 18 classes.

2. Gymnasiums

The gymnasium is a facility for indoor exercise. It consists of an exercise room and attached waiting rooms, storerooms for exercise equipment, and corridors. A stage may also be included as many gymnasiums are often utilized as auditoriums.

The standard area for subsidizing gymnasiums is determined according to the number of classes as shown below. The basis for calculation includes type of exercises in physical training classes and joint use by more than one class. Another consideration is use by local residents.

[Elementary school]

Number of classes	1-10	11-21	22-36	37 & over
Gymnasium area (㎡)	797	919	1,049	1,164

[Lower secondary school]

Number of classes	1-9	10-18	19 & over
Gymnasium area (㎡)	830	981	1,222

3. School Lands

School land consists of a site for school buildings, playground, and land allotted for experimental and field work, and for any other school use. The standard area for building sites and playgrounds are fixed according to the number of classes, as shown in Table 2.

Land is not as easy to substitute as buildings and the standard area cannot be assured in many cases because of prohibitive environmental factors. As a result, the standard area for school land is only a standard of calculating subsidies rather than standard for facilities.

For a medium-sized school, the standard area for land is approximately 5 times larger than that for buildings.

Table 2: Standard Area of School Land by Size of Elementary and Lower Secondary Schools

[Elementary school]

Number of classes	Standard area (㎡)	Number of classes	Standard area (㎡)	Number of classes	Standard area (㎡)
1	6,570	16	19,871	31	30,271
2	7,041	17	20,639	32	30,902
3	7,512	18	21,406	33	31,534
4	8,221	19	22,037	34	32,165
5	9,048	20	22,668	35	32,796
6	10,400	21	23,299	36	33,427
7	11,228	22	23,930	37	34,715
8	12,055	23	24,562	38	35,347
9	12,883	24	25,193	39	35,978
10	13,710	25	26,484	40	36,609
11	14,537	26	27,115	41	37,240
12	15,983	27	27,746	42	37,871
13	16,810	28	28,378	43	38,503
14	18,217	29	29,009	44	39,134
15	19,044	30	29,640	45	39,765

[Lower secondary school]

Number of classes	Standard area(㎡)	Number of classes	Standard area(㎡)	Number of classes	Standard area(㎡)	Number of classes	Standard area(㎡)
1	8,229	11	20,067	21	29,358	31	36,891
2	8,700	12	20,806	22	30,097	32	37,630
3	10,734	13	21,544	23	30,835	33	38,518
4	11,561	14	22,282	24	31,573	34	39,790
5	12,567	15	24,059	25	32,312	35	40,529
6	13,573	16	24,797	26	33,050	36	41,267
7	14,578	17	25,535	27	33,938	37	42,005
8	15,584	18	26,273	28	34,676	38	42,743
9	17,870	19	27,732	29	35,415	39	43,632
10	18,876	20	28,470	30	36,153	40	44,370

III. Current Condition of School Facilities

A survey is conducted on 1 May every year to obtain information about the current conditions of facilities at all public elementary and lower secondary schools, and provide the basis for the allocation of government subsidies. The results of surveys demonstrate that most public compulsory education school facilities are built within the fiscal year due to efforts by municipalities and the expansion of the national subsidy system.

1. Trends in School Population

Education for elementary and lower secondary school-age pupils/students is compulsory, and the municipalities are responsible for enforcing the school system within their bounds. This means that trends in school population become an important factor in managing school facilities. In other words, if the number of pupils/students increases, more classes are needed and classroom shortages occur. In this case, new construction and extension of school buildings becomes necessary. On the other hand, when there is a decrease in the number of pupils/students, less classes are required, and some classrooms become vacant. Here it becomes necessary to seek an effective substitute use for them.

Figures 1 and 2 show the trend of school populations since 1955. The number of elementary school students peaked at 13,398,000 in 1958, then plunged to 9,283,000 in 1968, a fall of some 4,115,000. After that, numbers rose again to a second peak of 11,819,000, in 1981. But it has been falling since then.

The number of students in lower secondary schools peaked at 7,031,000 in 1962, four years behind elementary schools. Numbers have fallen off considerably since then reaching 4,548,000 in 1974, or 2,483,000 less than at the peak. Increasing again, numbers reached 5,623,000 in 1984 with this trend predicted to continue until 1986.

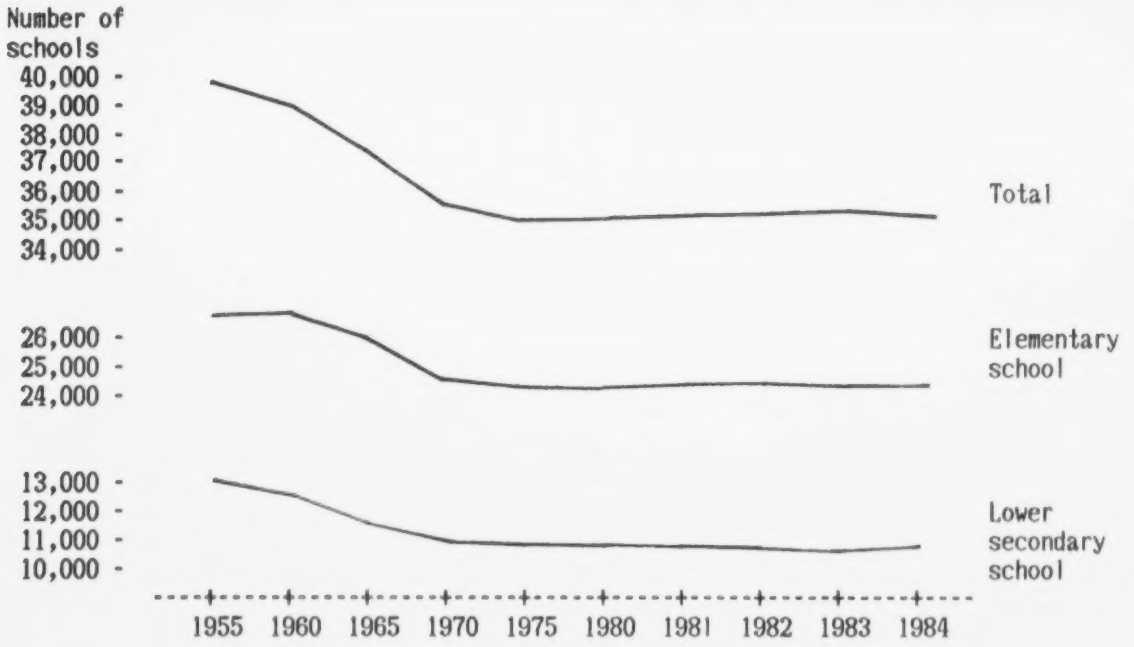


Figure 1: Changes of Schools in number

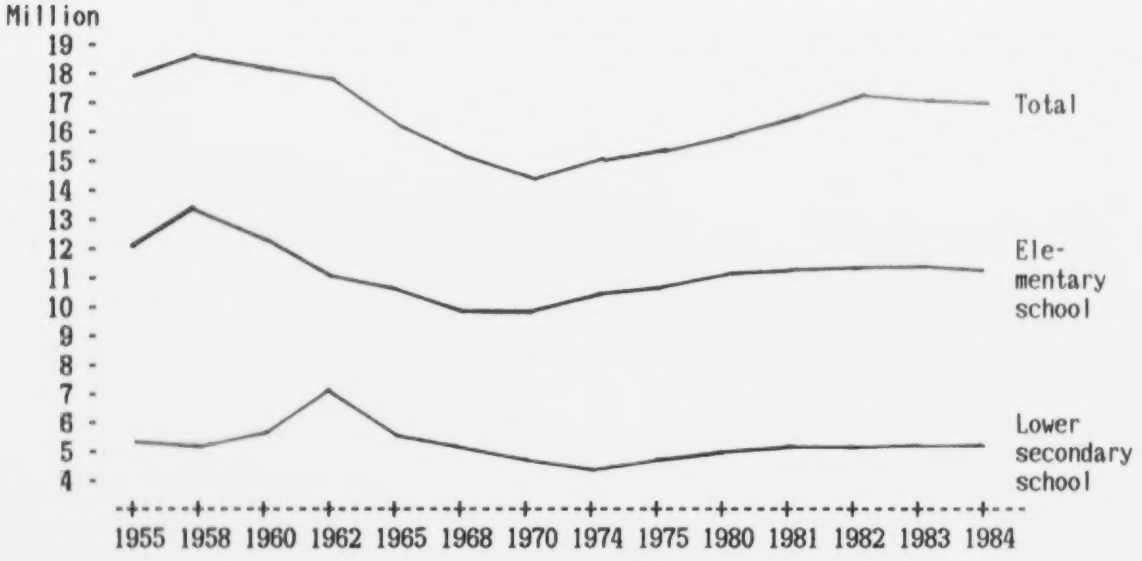


Figure 2: School Population Change

The total number of elementary and lower secondary pupils/students, combined, peaked at 18,403,000 in 1958, stabilizing around 18 million from 1956 till 1961. A decrease occurred in 1962, and reached 13,928,000 in 1970, or 4,475,000 less than the peak. Rising again, it marked a second peak of 17,225,000 in 1982, but has continued to fall since.

Thus, the school population has repeated a cycle of increase and decrease about every 10 years. School facilities have been established and upgraded in accordance with this trend. In the 1950's, the principle aim was to meet a rapid increase and in the 1960's, the main theme was to realize educational quality. The 1970's, saw a second rapid increase with measures taken accordingly. Currently, the focus is again on raising quality.

The Law which is the basis for the present system of national subsidies, was established in 1958 when the school population was growing rapidly, and effective measures were being sought.

2. Changes in Stock

(1) School Buildings

Changes in the stock of buildings and gymnasiums for public elementary and lower secondary schools since 1955, is shown in Table 3. The building stock has been on the rise every year, even in the 1960's when the school populations decreased. The growth is notable for the 1950's and 1970's when the number of pupils/students increased rapidly. Increases in building stock of elementary schools are most remarkable; growing 40% from 49,632,000㎡ to 65,487,000㎡ for the 1970's.

As a result, stock for buildings and gymnasiums in elementary and lower secondary schools increased 2.2 times, from 65,848,000㎡ in 1955, to 142,565,000 ㎡ in 1984. Examining these figures in detail we can see lower secondary schools have shown greater rates of increase than elementary schools both in buildings and gymnasiums.This can be attributed to the fact that lower secondary schools were created in 1947 under the School System Reform Act, the vehicle for the 6-3 system. Thus, new schools have been lagging behind existing ones in school facilities.

Table 3: Change in stocks of buildings and gymnasiums in public elementary and lower secondary schools

(thousand ㎡)

	Year	1955	1960	1965	1970	1975	1980	1981	1982	1983	1984
Elementary school	school buildings	39,931	45,349	47,143	49,632	57,340	69,487	71,968	74,065	75,601	76,915
	gymnasium	4,717	5,879	6,830	7,824	9,883	12,935	13,633	13,928	14,392	14,751
Lower secondary school	school buildings	19,341	22,573	27,364	28,250	31,355	36,840	37,925	39,418	40,697	42,034
	gymnasium	1,859	3,086	4,463	5,598	6,635	7,825	8,110	8,364	8,586	8,857
Elementary school	school buildings	100	115	118	124	144	174	180	185	189	193
	gymnasium	100	125	145	166	210	274	289	295	305	313
Lower secondary	school buildings	100	117	141	146	162	190	196	204	210	217
	gymnasium	100	166	240	301	357	421	436	450	462	476

Note: The lower half shows the indices compared with 1955 base of 100. Okinawa Prefecture is excluded.

At the same time there is more gymnasian stock, (especially in lower secondary schools) compared with school building stock. This is because gymnasiums have been established and upgraded more rapidly over the last 30 years.

(2) School Lands

Changes in land stock since 1955 are shown in Figure 3. The figure indicates that increases in school land have kept pace with increases in school buildings. School lands for elementary and lower secondary schools increased by 13% from 466,353,000㎡ in 1975 to 528,314,000㎡ in 1980, as many schools were established in this period. Also, in 1971, subsidies were extended to municipalities with rapidly growing school populations to make available more school land.

All told, the land stock of elementary and lower secondary schools increased by 57% from 360,843,000㎡ in 1955, to 566,655,000㎡ in 1984.

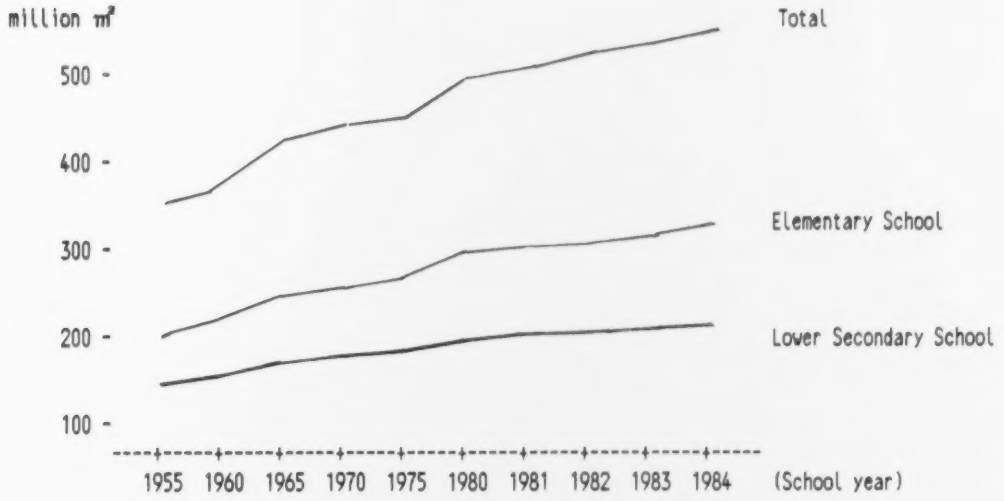


Figure 3: Changes in school area in public elementary and lower secondary schools

Concurrently, the number of elementary and lower secondary schools decreased by 11% due to consolidations, from 39,681 to 35,224. Thus, the land stock per school has increased by about 77%, from 9,100㎡ to 16,100㎡ .

(3) Per Capita Stock

The building stock per student in 1955 was 3.28㎡ in elementary schools and 3.41㎡ in lower secondary schools. It grew 2.1 times in elementary schools and 2.2 times in lower secondary schools by 1984, to 6.85㎡ and to 7.56㎡ respectively. (Okinawa Prefecture is excluded from these statistics.)

The school population decreased after 1955, and there were several revisions of the standard area per capita regulation. The standard area was expanded from 2.97㎡ to 6.1㎡ for elementary schools and from 3.57㎡ to 7.7 ㎡ for lower secondary schools. (A class consists of about 40 pupils/students)

School land, per capita, in 1955 was 17.2㎡ for elementary schools and 26.7㎡ for lower secondary schools. By 1984, it had grown 1.8 times to 30.4㎡ for the former, and 1.5 times to 39.5㎡ for the latter.

Table 4: Changes in the number of schools and students in public elementary and lower secondary schools

(Indices compared with a 1955 base of 100)

	Year	1955		1965		1975		1984	
Number of schools	Elementary school	26,659	100	25,745	97	24,419	92	24,822	93
	Lower secondary school	13,022	100	11,384	87	10,120	78	10,402	80
	Total	39,681	100	37,129	94	34,539	87	35,224	89
Number of students (thousands)	Elementary school	12,181	100	9,678	80	10,260	84	11,358	93
	Lower secondary school	5,668	100	5,740	101	4,573	81	5,623	99
	Total	17,849	100	15,418	86	14,833	83	16,981	95
Building stock (m^2) school buildings gymnasiums dormitories	Elementary school	44,657	100	53,982	121	67,827	152	92,754	208
	Lower secondary school	21,222	100	31,943	151	38,667	182	51,798	244
	Total	65,879	100	85,925	130	106,494	162	144,552	219
School land area (m^2)	Elementary school	209,470	100	255,123	122	281,638	135	344,729	165
	Lower secondary school	151,373	100	179,441	119	184,715	122	221,926	147
	Total	360,843	100	434,564	120	466,353	129	566,655	157

(4) Stock Ratio by Structure Types

Buildings in Japan were traditionally made of wood. Most public compulsory education schools are not the exception. In 1955, 94% (93% for elementary schools and 95% for lower secondary schools) of all the school building stock was timber construction.

But wood is an incendiary material and weathers comparatively poorly. In addition, lumber procurement became more and more difficult. On the other hand, reinforced concrete buildings are, superior with respect to fire prevention and sound proofing, and lasting longer are more economically vi-

able. Consequently, reinforced concrete construction was introduced from the latter half of 1950's when the number of pupils/students grew most rapidly. Today, most new constructions are of reinforced concrete or steel bar frame rather than wood.

As a result, wooden buildings have been reduced to 10% of the whole, the rest being reinforced concrete or steel bar frame construction. However, there is a movement to make the most of wood's excellent qualities, such as inherent atmosphere, soft, warm texture, and high moisture absorption. So wood is used for the interior furnishings of reinforced concrete buildings.

3. Current conditions of School Facilities

Table 5 shows present conditions of school facilities with respect to how standards have been attained.

(1) School Buildings

In 1955, the required area for school buildings was 35,513,000㎡ for elementary schools and 19,715,000㎡ for lower secondary schools, totalling 55,228,000㎡. The standard for subsidies was fixed by area per pupil/student, and was 2.97㎡ in elementary schools and 3.57㎡ in lower secondary schools.

Meanwhile, the qualifiable area (total of the required area of each school minus the stock) was 2,596,000㎡ in elementary schools and 2,814,000㎡ in lower secondary schools, totalling some 5,410,000㎡. Thus, the fulfillment rate (1 - qualifiable area/required area) was 92.7% in elementary schools and 85.7% in lower secondary schools, 90.2% in total. This means school buildings in elementary schools were nearer the desired level than lower secondary schools.

In 1984, the required area was 80,069,000㎡ in elementary schools and 43,014,000㎡ in lower secondary schools, totalling 123,083,000㎡. Compared with 1955, this was 2.3 times larger for elementary, and 2.2 times larger for lower secondary schools. The standard area was changed as the absolute number of pupils/students decreased during the period. (The basis for standard area subsidies was modified in 1964 from pupil/student, to class.)

The qualifiable area was 6,847,000㎡ in elementary schools and 3,576,000 ㎡ in lower secondary schools, totalling 10,423,000㎡. Thus, it was overall larger than the figure for 1955. The fulfillment rate was 91.4% in elementary schools and 91.7% in lower secondary schools, 91.5% in total. School buildings in lower secondary schools were about the same level as those in elementary schools.

The rate, however, is calculated in relation to required area, so viable comparisons with 1955 figures can not really be made.

In 1984, the high-risk areas requiring reconstruction totalled 4,412,000 ㎡ (2,983,000㎡ in elementary schools, and 1,429,000㎡ in lower secondary schools). Of this total, 3,722,000㎡ (2,562,000㎡ for elementary, 1,160,000㎡ for lower secondary schools), will be allocated reconstruction subsidies by the national treasury.

Table 5: School Facilities in Japan
[Elementary School]

Year		1955	1960	1965	1970	1975	1980	1981	1982	1983	1984
Number of schools A		26,659	26,620	25,745	24,558	24,419	24,707	24,766	24,802	24,804	24,822
Number of classes B		227,869	296,286	275,553	284,596	312,300	347,860	351,091	350,707	347,421	341,507
Number of pupils C		12,181,255	12,495,514	9,678,329	9,391,425	10,259,848	11,720,694	11,819,002	11,795,275	11,632,497	11,357,950
Required area	School buildings D	35,513	37,165	42,166	42,001	63,078	80,703	81,312	81,600	81,085	80,069
	Gymnasiums E	8,086	8,807	7,935	10,593	15,781	19,013	19,025	19,257	19,164	19,052
Stock area by structure	Reinforced concrete F	2,675 6	5,412 11	10,229 19	20,116 35	37,727 56	59,285 71	63,838 74	67,370 76	70,273 77	72,774 79
	Steel bar frame G	215 1	909 2	2,178 4	3,851 7	6,175 9	8,853 11	9,381 11	9,815 11	10,203 11	10,487 11
	Wood H	41,767 93	45,415 87	41,575 77	33,504 58	23,925 35	15,224 18	13,389 15	11,857 13	10,567 12	9,493 10
	Total I	44,657 100	51,736 100	53,982 100	57,471 100	67,827 100	83,362 100	86,608 100	89,042 100	91,043 100	92,754 100
Qualifiable area	School buildings J	2,596	1,156	2,982	2,380	7,444	11,757	10,409	9,307	8,063	6,847
	Gymnasiums K	4,305	4,092	2,892	3,834	6,481	6,730	6,209	5,961	5,529	5,118
High risk area	School buildings L	-	-	-	6,296	4,839	2,769	2,342	2,008	1,621	2,983
	Gymnasiums M	-	-	-	782	624	369	315	255	215	398
Reconstruction required area	School buildings N	-	-	-	3,836	4,227	2,376	2,007	1,711	1,354	2,562
	Gymnasiums O	-	-	-	651	570	350	301	243	205	382
Area of school land P		209,470	232,296	255,123	-	281,638	322,392	325,129	332,107	337,046	344,729
Number of schools with gymnasiums Q (Q/A)		13,263 (50%)	15,062 (57%)	16,638 (65%)	- (-)	19,334 (79%)	21,798 (88%)	22,258 (90%)	22,528 (91%)	22,771 (92%)	22,993 (93%)

Notes: 1. Stock area by structure includes buildings, gymnasiums and dormitories.
2. Numbers of schools, classes and pupils are based on the Basic Survey of Schools.

16

[Lower Secondary School]

Year		1955	1960	1965	1970	1975	1980	1981	1982	1983	1984
Number of schools A		13,022	12,304	11,384	10,380	10,120	10,156	10,183	10,252	10,314	10,402
Number of classes B		122,069	126,510	140,312	122,822	124,663	131,671	136,155	143,202	144,994	147,847
Number of students C		5,667,651	5,657,251	5,739,621	4,536,538	4,573,225	4,908,665	5,111,854	5,429,701	5,506,783	5,623,328
Required area	School buildings D	19,715	19,824	27,252	23,640	32,616	39,166	40,128	41,821	42,292	43,014
	Gymnasiums E	4,407	4,729	4,904	5,914	7,750	8,448	8,526	8,759	8,834	8,937
Stock area by structure	Reinforced concrete F	936 4	3,084 12	8,073 25	12,909 38	21,206 55	31,408 69	33,651 72	36,027 74	38,099 76	40,124 78
	Steel bar frame G	169 1	944 4	2,757 9	4,174 12	5,263 14	6,357 14	6,514 14	6,679 14	6,811 14	6,956 13
	Wood H	20,117 95	21,673 84	21,113 66	16,985 50	12,198 31	7,724 17	6,724 14	5,968 12	5,273 10	4,718 9
	Total I	21,222 100	25,701 100	31,943 100	34,068 100	38,667 100	45,489 100	46,889 100	48,674 100	50,183 100	51,798 100
Qualifiable area	School buildings J	2,814	1,298	2,909	1,297	3,147	4,351	4,187	4,327	3,919	3,576
	Gymnasiums K	3,073	2,477	1,518	1,402	2,047	1,776	1,647	1,628	1,551	1,453
High risk area	School buildings L	-	-	-	1,724	1,682	1,008	873	782	626	1,429
	Gymnasiums M	-	-	-	72	99	75	65	60	51	145
Reconstruction required area	School buildings N	-	-	-	1,095	1,466	791	690	628	488	1,160
	Gymnasiums O	-	-	-	62	90	69	59	55	46	131
Area of school land P		151,373	163,992	179,441	-	184,715	205,922	208,050	212,824	217,378	221,926
Number of schools with gymnasiums Q (Q/A)		4,062 (31%)	5,893 (48%)	7,390 (65%)	- (-)	8,761 (87%)	9,297 (72%)	9,437 (93%)	9,552 (93%)	9,648 (94%)	9,799 (94%)

Notes: 1. Stock area by structure includes buildings, gymnasiums and dormitories.
2. Numbers of schools, classes and students are based on the Basic Survey of Schools.

What actually needs to be established at present is the total qualifiable area and area requiring reconstruction. So the figure of 14,145,000㎡ is the total of 9,409,000㎡ for elementary schools and 4,736,000㎡ for lower secondary schools. The ratio of this figure to the required area is 11.5% indicating that 88.5% of public compulsory education schools have sufficiently high levels.

(2) Gymnasiums

Looking at the fulfillment rate of gymnasiums in the same manner with school buildings, we can see in 1955, it was 46.8% for elementary schools and 30.3% for lower secondary schools. In 1984, it was 73.1% and 83.7%, respectively. This indicates great improvement in the situation, especially for lower secondary where improvements outstripped elementary schools.

In 1955, 50% of elementary schools and 69% of lower secondary schools were not equipped with gymnasiums, while in 1984, a mere 7% of elementary schools and 6% of lower secondary schools suffered this deficit. Currently, most public compulsory education schools own gymnasiums.

As to the fulfillment rate, it is clear that many small-sized gymnasiums do not reach the regulated standard area. This may be unavoidable, however, as it is technically difficult to extend gymnasiums.

IV. Budget for Subsidies and the Future Trend of Policies for School Facilities

1. Budgeting Trend for Subsidies

The trend of subsidies for public school facilities since 1970 shows an increase from 43 billion yen in 1970, to 571.3 billion yen in 1980. It was increased yearly in the 1970's in accordance with measures taken by local public bodies in the second school population growth period. In 1980 alone, more than one trillion yen was devoted to public school facilities, if expenditures from local public bodies are to be included.

As the school population down-turned from 1982, subsidies for public school facilities also marked a peak in 1980, then declined. Still, 362.4 billion yen was appropriated in 1985.

The area for projected construction was 3,376,000㎡ in 1970, and grew to 8,248,000㎡ in 1980. Though it has been declining since then, 4,570,000㎡ of construction was still considered necessary in 1985. In 1974 and 1975 because of the Oil Crisis, the area of projected construction did not rise despite an increase in budget allocation.

2. Future Trend on Policies for School Facilities

Looking back over the history of national policies for school facilities since 1947 when the new school system (called 6-3-3-4 system) was inaugurated,

main efforts have clearly been exerted toward the quantitative aspects. In the 1950's measures were taken to meet the rapid increase of pupil/student numbers; in the 1960's the standard area was expanded with a view to raising quality during the 1970's when numbers again rose rapidly the measures taken were designed to meet problems in densely or thinly populated areas resulting from demographic change.

The problem of crowded classrooms has been gradually solved and old, decaying wooden buildings replaced with reinforced concrete or renovated. Today school facilities approach the desired level in terms of quantity. Recently, efforts have focused on the quality of school facilities. Hereafter, emphasis must be placed upon solving the problems which have resulted from past expansions and meeting long-term needs toward the twenty-first century.

Three major problems have arisen from the past history of expansion.

(1) Removing over-sized schools

As the number of pupils/students rapidly increased, separation and new construction of elementary and lower secondary schools were projected. These projects, however, did not fully eventuate, mainly due to difficulties in land acquisition. As a result, some existing schools became too large with too many pupils/students. Presently, the emphasis is on removing those schools which have more than 30 classrooms.

(2) Repairs and reconstruction of buildings of reinforced concrete or steel bar framed construction made in the 1950's

Buildings constructed in the 1950's, when the emphasis was on meeting rapidly swelling pupil/student numbers, are generally of poor quality in terms of material and structure, compared with present levels. Some lack proper maintenance. Moreover, some buildings have a haphazard configuration from decades of piecemeal renovation and extension. In order to expedite the programme of repair and reconstruction, durability measuring methods for reconstruction werc formulated in 1983 and 1985, and a new subsidy system was established to serve large-scale repairs.

(3) Effective use of surplus classrooms

Many classrooms are estimated to become vacant in the coming years, with an expected plunge in the number of pupils/students. When ordinary classrooms become vacant, they can be used as special classrooms, or multipurpose space, or can be converted into social educational facilities for local residents. However, there are technical and financial problems. The national subsidy programme for large-scaled repairs which began in 1983 aims to solve these and other issues.

For the long-term, the following two issues will be emphasized.

(1) Ideal designs for school facilities to match the changing circumstances in the future

Educational philosophy cannot be free from the impact of changes in

life style, and scientific and technological developments. Consequently, the content and methods of school education is likely to undergo more change.

Traditional Japanese school buildings are made of wood, with classrooms placed in a row at the southern side and long hallways extend along the northern side. Many newer buildings of reinforced concrete were designed in the same manner. It has how become necessary to design future facilities with more flexibility. With this in mind, the standard area for subsidy was revised in 1984, and the concept of multi-purpose space was introduced for elementary and lower secondary schools.

(2) School facilities will be established and upgraded so that in future schools can be used by local communities and pupils/students alike

In the past, schools were considered to be mainly places for educating pupils/students. Today, however, schools are expected to serve not only as places for curricular activities but as regional community centers, as well. It is yet to be decided how school facilities can best be organized to fulfill these two functions. The national subsidies begun in 1982 and 1983, will help improve schools' external environments, establishing both community facilities for local residents and training facilities for pupils/students.